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Progress in
PUBLIC ACCOUNTABILITY

Medical Audit in Action

Experience in a Regional Kidney Disease Program

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The California Medical Association (CMA) has developed an educational patient care audit workshop to meet a growing voluntary interest among practicing physicians in California in methods for improving the quality of care. Through programs in continuing education, the workshop demonstrates steps in objective assessment of current quality and potential areas in need of improvement, as well as ongoing results from attempts to improve medical practice. Added to this original voluntary physician participation is increasing interest in quality assurance among community hospitals, health professional schools and all types of health-oriented personnel stimulated by recent passage in California of PL 92-603.

Public Law 92-603 establishes the requirement that Professional Standards Review Organizations (PSRO's) be formed to review the necessity and quality of health services provided under Medicare and Medicaid (Medi-Cal). Further, the law states that where such review is satisfactorily performed locally (for instance, within a health care setting) and independently (that is, by the health care practitioners themselves), review by the PSRO will be obviated. The increasing demand for public accountability in all spheres has probably accounted for this aspect of the legislation.

The management of chronic renal disease by hemodialysis and/or transplantation is now a service which is covered by Medicare. The legislation specifically authorized the Secretary of HEW to establish minimal utilization rates in facilities and medical review boards to screen the appropriateness of patients for the proposed treatment modality. Each of these functions is of the same nature that PSRO's are charged to review. The CMA workshop approach, as an alternative to PSRO review, would allow practitioners a method which, in addition to assessing quality of care offered their patients, saves the physician time and provides a means for improvement in patient care.

The renal program at Los Angeles County-University of Southern California (LAC-USC) Medical Center was originally introduced to the CMA concept by coordination activities of Regional Medical Programs in California through their quality of patient care studies and the Regional Kidney Disease Program. It was felt that review boards, which may well be established to monitor the quality of patient care for dialysis and transplant patients, must have a basis for evaluating patient care and, therefore, must adopt a standard process which will lead to cooperative attitudes necessary for a health team in developing criteria for medical conditions.

If institutions and physicians involved in dialysis and transplantation who, in fact, involve a health team in this process, aggressively pursue the voluntary development of criteria, then organized medicine, governmental programs and, most importantly, the patient will have benefited. This paper will attempt to display the processes learned

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during the workshop as it relates to a specific medical-surgical team. The process developed by CMA is primarily directed toward a hospital team; however, similarities with respect to a major hospital service obviously exist. This paper also discusses the feasibility of implementing the patient care assessment process at the LAC-USC Medical Center, involving a health team consisting of physicians, nurses, social workers, technicians, food service workers, medical records administrators, hospital administrators and patients.

Workshop Program and Organization

The California Medical Association-Medical Audit Workshop was planned for a three-day period. The health care team which participated in the workshop included three physicians, three registered nurses, a dietitian, two medical social workers, a medical records administrator, an administrative assistant and two patients. The initial part of the program was directed toward defining the overall goals for a patient care audit committee. The necessity for the major goal to be directed toward excellent patient care was emphasized, and that criterion for patient care must be accepted by every physician whose medical records will be reviewed.

The medical audit process involves reviewing medical records which are derived from a specific diagnosis or problem. Criteria for the diagnosis or problem are defined and expected performance levels are established. The expected performance levels are thresholds for action if, upon review of medical records, actual performance levels do not meet or exceed them. Differences are analyzed and specific remedial action designed.

In principle, the facility or program within a facility will establish an efficient care audit committee and, in the case of the renal program, this committee was taken to consist of the representatives attending the workshop. Once the committee is established, the first step to be taken is to develop a draft of criteria with minimal acceptable performance levels. A second step is to have the drafted criteria ratified by all those whose cases may be audited. The third step would be to search the medical records for evidence that the criteria were fulfilled. This search is carried out by medical records personnel, that is, non-physicians. The fourth step involves the identification of criteria which failed to meet expected levels. An analysis (steps five and six) of the differences will suggest the remedial action to be taken and might involve

STEPS IN THE AUDIT CYCLE

1. Select topic: diagnosis, operation or other basis for defining patient care audit. Specify objective.
2. Develop draft criteria and expected performance levels for each.
3. Have draft criteria (or revisions) and performance level ratified by all those whose cases may be audited.
4. Apply criteria to chart review by medical records personnel.
5. Identify areas where actual performance does not equal expected performance.
6. Analyze problems and determine probable causes.
7. Develop specific remedial action.
8. Implement remedial action.
9. Reaudit topic after suitable interval to monitor effectiveness of remedial action, evaluate the specific audit and the process as a whole.

an alteration of the original criterion (for instance, to increase specificity), educational programs, administrative changes or perhaps the acquisition of additional personnel or equipment (steps seven and eight). After some appropriate period of time, subsequent records should be reviewed against the original (or modified) criteria to determine if the remedial action was effective in correction of the problem. This completes the cycle and provides evaluation of the audit as a whole. This process is delineated in the accompanying list of steps and is similar to the concept developed by Brown and Uhl.[1]

The workshop began by the development of criteria. The diagnosis for which criteria were developed were renal homotransplantation and chronic renal failure. The criteria for transplant diagnosis and expected performance levels were established (Table 1). Also established were criteria and performance levels for chronic renal failure (Table 2). Each criterion was established only after ascertaining its relevance, its understandability, its measurability, its effect on behavior and its achievability.

It was decided by the patient care audit committee that, upon chart review, evidence of the criteria being met should be as indicated in the Tables. For example, in the cases where diagnosis was chronic renal failure, the level of performance for a notation about attempts being made to obtain an x-ray study of the kidneys or an indication of kidney size or a kidney biopsy should be 90 percent.

The system was tested by review of ten randomly selected medical records with each of the two diagnoses. The results indicated that there

TABLE 1.—*Transplant Diagnosis*

Criteria	Expected Performance Levels (Percent)	Actual Performance Levels (Percent)
1. Complete preoperative checklist should be in chart	100	100
2. All white counts should be greater than 3,500 and platelet count greater than 50,000	90	50
3. There should be no temperature elevation greater than 100°F, without blood and urine culture and chest x-ray	100	60
4. There should be no diastolic blood pressure greater than 110 on two successive days	90	80
5. There should be no weight change greater than four pounds postoperatively on any given day after the first day	95	80
6. There should be no infection after operation	80	80
7. No more than two units of blood should be given in the postoperative or operative period, and only frozen blood should be administered	100	40
8. Each patient should have social service, dietary, and nursing notes indicating that each of these disciplines rendered counsel to the patient	100	10

TABLE 2.—*Chronic Renal Failure Diagnosis*

Criteria	Expected Performance Levels (Percent)	Actual Performance Levels (Percent)
1. A notation about attempts being made to obtain an x-ray of the kidneys, or a kidney x-ray report, or a notation about kidney size, or a kidney biopsy should be in the record	90	80
2. A chest x-ray should be in the record	95	90
3. The following blood tests should be in the record: creatinine, BUN, sodium, potassium, bicarbonate, calcium, phosphorus, alkaline phosphatase, uric acid and hematocrit		
4. A cardiac and neurologic examination should be recorded	95	90
5. A serum bicarbonate less than 15 on two successive days should not occur	90	100
6. A serum potassium over 6 more than one day should not occur	95	100
7. Social service and dietetic counseling should be indicated in the medical record	80	100
8. The administration of any one of the following drugs should not occur: spironolactone, triamterine, potassium chloride, ammonium chloride and methenamine	90	80

were problems within several of the criteria set for each diagnosis. For example, criterion 3, Table 1, indicated that there should be no body temperature elevation greater than 100°F without blood and urine cultures and a chest x-ray film. However, this criterion was met by chart review in only 60 percent of the cases. The patient care audit committee reviewed the findings and recommended the findings should be publicized to the physician house staff and nursing house staff who are responsible for caring for these patients.

The worst performance was for criterion 8, Table 1. It was discovered by the patient care audit committee that the social service and dietary disciplines had not recorded the fact that they had rendered a patient service. Consequently, it was recommended that personnel in each of these disciplines make a notation in the medical record when patient counseling is given. Through perusal of the Tables, it is apparent that several criteria which were agreed upon by the medical care team were not being fully met. This discovery was accepted as an important piece of information for the medical care team and enthusiasm was generated toward improving the performance level. The number of medical records reviewed during the workshop was small, only 10 records for each diagnosis. Consequently, the results do not accurately reflect the overall performance of the criteria established by the Renal Section of the LAC-USC Medical Center and can only be used for illustrative purposes.

Comment

A primary goal of the California Medical Association's Patient Care Assessment (or Medical Audit) Workshop Program is to encourage health care teams objectively to examine the quality of health care they provide as compared with their own standard of quality. In contrast to quality assessment by means of random chart review, this method is designed to reflect not upon isolated and

individual variations or deviations (deficiencies) in patient care, but rather upon trends observed in numerous records of patient care (performance levels). Specific variations in single individual records, if deemed of such significance that a special review by a physician is called for, may be indicated by this process as well.

In many instances, mere recognition of suboptimal performance by the health practitioners will be corrective; that simple recognition may not solve the problem, however, has been pointed out previously[2] in a study which demonstrated that habit pattern could be modified only through repetitive stimulation. The California Medical Association's Medical Audit Program allows for the development of unique methods to stimulate performance through the work of the patient care audit committee. The audit committee may decide that once performance is falling below the minimal acceptable level an alert system is necessary in order to improve the performance level.

A major advantage of this program is working within the existing system of health care delivery. In the workshop described herein, health professionals and patients made up the audit team on an experimental basis.

The inclusion of patients in the patient care audit committee was particularly stimulating to the committee members, who established criteria for the recognition of good medical care. The patients were able to point out how the criteria became relevant to their feelings over important issues. For example, patients emphasize their concern over clear dietary instructions. Additionally, they pointed out the importance of economic and social factors in their ability to adhere to medical regimens. Both dietary and social counseling were finally considered important criteria for good medical care to the patient with chronic renal disease. Patients who work on a patient care audit committee would more likely be those who are articulate, intelligent and emotionally stable.

Emotional stability is perhaps of the greatest importance because, during the discussions of criteria by the audit committee, elements of uncertainty about "best" criterion are bound to arise. A temperamental patient could become anxious and lose confidence in the health care team. This reaction did not occur in the patients included in the renal program patient care audit committee. These patients were well known to the health care team and had been under the care of the renal program at LAC-USC Medical Center for several years. They were known to be physically and mentally stable at the time they were asked to serve on the patient care audit committee.

In the final analysis, medical care is a service to patients; therefore in the appraisal of its effectiveness, patients (the consumer) would appropriately be involved in making this appraisal. Much of medical care is delivered in an authoritarian manner, perhaps an inevitable result when highly specialized knowledge is applied to a problem, but it is certainly reasonable to include the consumer in judging the final product even in the most specialized fields. Acceptance of medical care will reach the highest level when the patient understands the process and criteria of medical care.

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